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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Eighth Semester B.Tech Degree Regular Examination June 2023 (2019 Scheme)

Course Code: CST476

Course Name: MOBILE COMPUTING

Max. Marks: 100 **Duration: 3 Hours**

PART A

Answer all questions, each carries 3 marks. Marks

1 What are the three segments of the ubiquitous Internet? (3)

2 Identify the advantages of semantic web? (3)

3 List out the advantages and disadvantages of spread spectrum. (3)

4 Explain how is localization done using satellite systems? (3)

5 Compare infrastructure based Wireless LAN and Adhoc based Wireless LAN. (3)

6 Discuss any three applications of Bluetooth. (3)

7 How are data packets encapsulated using Generic Routing Encapsulation? (3)

8 How does Wireless Transaction Protocol achieve reliability? (3)

9 Discuss the components of Information Security. (3)

10 Mention the features of 5G Wireless Systems. (3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11 a) Discuss any five functions of mobile computing (5)

b) With a neat diagram explain the three tier architecture of mobile computing. (9)

OR

12 a) Explain the various applications of mobile computing. (7)

b) What is a middleware? Discuss the role of various types of middleware in mobile computing. (7)

Module II

13 a) Apply Direct Sequence Spread Spectrum to the data 010 using the Barker Sequence 10011010101.Show the encoding and decoding steps. (8)

b) Discuss how routing is enabled in a satellite system. (6)

OR

14 a) Explain in detail GEO, LEO and MEO with the advantages and disadvantages of each. (9)

b) Why is handover needed in GSM? Discuss the various handover scenarios in GSM. (5)

Module III

15 a) Describe the architecture of Bluetooth with a neat sketch. (7)

b) Discuss the protocol architecture of IEEE 802.11 Wireless LAN in detail. (7)

OR

16 a) Explain the 3 different physical layer versions supported by IEEE 802.11. (6)

b) Discuss in detail the three phases of Elimination-yield non-preemptive priority multiple access in HIPERLAN. (8)

Module IV

17 a) How is IP packet delivery done using Mobile IP? (5)

b) What are the features Wireless Application Protocol? Explain the different layers in WAP architecture with a neat sketch. (9)

OR

18 a) With a neat diagram explain the working of a Dynamic Host Configuration Protocol (DHCP). (7)

b) Discuss the service enhancements in Wireless Datagram Protocol for the transfer of data? (7)

Module V

19 a) Compare the characteristics of various security models used in mobile computing. (8)

b) Describe the working principle of Orthogonal Frequency Division Multiplexing. (6)

OR

20 a) Discuss the role of various security techniques in mobile computing. (8)

b) Describe in detail the 10 pillars of 5G. (6)

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